

IN THE CLAIMS:

Please amend the following claims:

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- 1 1. (Amended) An electronically tuned circuit, comprising a power amplifier coupled to
2 an electronically tunable output network, said output network including an
3 electronically tunable reactive component.
 - 1 2. (Amended) An electronically tuned circuit as in claim 1, wherein said output network
2 is adapted to be tuned to a selected frequency.
 - 1 3. (Amended) An electronically tuned circuit as in claim 1, wherein said output network
2 is adapted to be adjusted to match a selected load impedance.
 - 1 4. (Amended) An electronically tuned circuit as in claim 1, wherein said output network
2 is adapted to produce a modulated signal at the network output.
 - 1 5. (Amended) An electronically tuned circuit as in claim 4, wherein said output network
2 is further adapted to provide a power-amplifier load-impedance locus that
3 substantially maximizes power-amplifier efficiency.
 - 4 6. (Amended) An electronically tuned circuit as in claim 4, wherein said output network
5 is further adapted to follow a substantially resistive power-amplifier impedance locus,
6 thereby maintaining power-amplifier efficiency near maximum.
 - 1 7. (Amended) An electronically tuned circuit as in claim 1, wherein said output network
2 is adapted to be tuned in accordance with a predetermined set of tuning inputs.
 - 1 8. (Amended) An electronically tuned circuit as in claim 7, wherein said tuning inputs
2 are selected in accordance with a lookup table.

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9. (Amended) An electronically tuned circuit as in claim 1, wherein said output network is adapted to be tuned in accordance with a predetermined lookup table of tuning inputs.

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13. (Amended) An electronically tuned circuit as in claim 1, wherein said electronically tunable reactive component includes an electronically tunable capacitor.

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14. (Amended) An electronically tuned circuit as in claim 13, wherein said electronically tunable capacitor includes a transistor.

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15. (Amended) An electronically tuned circuit as in claim 13, wherein said electronically tunable capacitor includes a diode.

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16. (Amended) An electronically tuned circuit as in claim 13, wherein said electronically tunable capacitor includes a diode having a control terminal.

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17. (Amended) An electronically tuned circuit as in claim 13, wherein said electronically tunable capacitor includes a micro electro-mechanical system device.

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18. (Amended) An electronically tuned circuit as in claim 13, wherein said electronically tunable capacitor includes a variable-dielectric material.

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19. (Amended) An electronically tuned circuit as in claim 13, wherein said electronically tunable capacitor includes a piezo-electric device.

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28. (Amended) An electronically tuned circuit as in claim 1, further comprising a controller, said controller for providing a signal for controlling said electronically tunable output network.

1 29. (Amended) An electronically tuned circuit as in claim 28, further comprising an
2 envelope detector with an envelope-detector input and envelope-detector output, said
3 envelope-detector output coupled to the input of said controller, said envelope
4 detector being responsive to an input RF signal and providing a modulation input to
5 said controller.

1 30. (Amended) An electronically tuned circuit as in claim 28, further comprising a
2 drive-level adjuster coupled for adjusting amplitude of a signal provided to said
3 power amplifier.

1 31. (Amended) An electronically tuned circuit as in claim 1, further comprising a digital
2 signal processor coupled to said power amplifier and to said electronically tunable
3 output network, said processor for providing a drive signal to said power amplifier
4 and a tuning signal to said electronically tunable output network.

1 32. (Amended) An electronically tuned circuit as in claim 31, further comprising a
2 controller coupled to said digital signal processor and to said electronically tunable
3 output network, wherein output of said digital signal processor is directed to said
4 controller and wherein output of said controller is directed to said electronically
5 tunable output network.

1 33. (Amended) An electronically tuned circuit as in claim 1, further comprising a
2 drive-level adjuster coupled for adjusting amplitude of a signal provided to said
3 power amplifier.

1 34. (Amended) An electronically tuned circuit as in claim 33, wherein said electronically
2 tunable output network and said drive-level adjuster are adapted to produce a
3 modulated signal.

1 35. (Amended) An electronically tuned circuit as in claim 34, wherein said circuit is for
2 providing a desired circuit output, wherein when said desired circuit output is above
3 a threshold said electronically tunable output network is used to control amplitude
4 and when said desired circuit output is below a threshold said drive level adjuster is
5 used to control amplitude.

1 36. (Amended) An electronically tuned circuit as in claim 33, further comprising a
2 controller for converting a modulation input into tuning signals for control of said
3 electronically tuned network.

1 37. (Amended) An electronically tuned circuit as in claim 1, further comprising a bias
2 input for setting bias level of said power amplifier.

1 38. (Amended) An electronically tuned circuit as in claim 37, wherein said bias level is
2 adapted to the minimum level necessary to enable operation of the power amplifier,
3 thereby reducing power consumption.

1 39. (Amended) An electronically tuned circuit as in claim 37, further comprising a
2 controller for adjusting said bias level in response to frequency, impedance, and
3 modulation inputs.

1) 40. (Amended) An electronically tuned circuit comprising:

2 (a) means for power amplifying; and

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4 (b) means for electronic tuning of said means for power amplifying
5 coupled to said means for power amplifying.

1) 41. (Amended) An electronically tuned circuit as in claim 40, wherein said means for
2 power amplifying operates in class E and said electronic-tuning means is capable of
3 being tuned to provide a reactance for optimum class-E operation for a selected
4 frequency.

1 (42. (Amended) An electronically tuned circuit as in claim 40, wherein said means for
2 power amplifying operates in class E and said electronic-tuning means is capable of
3 being tuned to provide a reactance for optimum class-E operation while delivering
4 power to a selected load impedance.

1 / 43. (Amended) An electronically tuned circuit as in claim 40, wherein said means for
2 power amplifying operates in class E and said electronic-tuning means is capable of
3 being tuned to provide a reactance for optimum class-E operation while
4 simultaneously modulating the output of said electronic-tuning means.

1 / 44. (Amended) An electronically tuned circuit as in claim 40, wherein said means for
2 power amplifying operates in class E and further comprising a fixed reactance for
3 optimum class-E operation at a first frequency, wherein said electronic-tuning means
4 is capable of being tuned to provide said power amplifying means with a load
5 impedance for optimum class-E operation for a selected second frequency.

1 ✓ 45. (Amended) An electronically tuned circuit as in claim 40, wherein said means for
2 power amplifying operates in class E and further comprising a fixed reactance for
3 optimum class-E operation with a first load impedance, wherein said
4 electronic-tuning means is capable of being tuned to provide said power amplifying
5 means with a load impedance for optimum class-E operation with a second load
6 impedance different from said first circuit load impedance.

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1 46. (Amended) An electronically tuned circuit as in claim 40, wherein said means for
2 power amplifying operates in class E and said electronic-tuning means is capable of
3 being tuned to provide an impedance for optimum class-E operation when the
4 circuit is delivering a maximum output signal amplitude, and said electronic-tuning
5 means is capable of being tuned to provide suboptimum class E operation when the
6 circuit is delivering less than a maximum output signal amplitude.

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1 56. (Amended) An electronically tuned circuit, comprising one or more power
2 amplifiers, each of said power amplifiers having an output network, said output
3 network including a tuning input, a network output, and an electronically tunable
4 reactive component.

1 57. (Amended) An electronically tuned circuit as in claim 56, wherein said output
2 network is adapted to be tuned to a fixed or variable frequency.

1 58. (Amended) An electronically tuned circuit as in claim 56, wherein said output
2 network is adapted to be adjusted to match a fixed or variable load impedance at said
3 network output.

1 59. (Amended) An electronically tuned circuit as in claim 56, wherein said output
2 network is adapted to produce a modulated signal at said network output.

Please add the following new claims

- 1 60. An electronically tuned circuit as in claim 1, wherein said output network includes at
2 least two reactive components connected as a tuned circuit, wherein at least one of
3 said reactive components is adapted to being electronically tuned by a tuning signal.
- 1 61. An electronically tuned circuit as in claim 28, wherein said controller converts an
2 input signal to a voltage suitable for controlling said tunable output.
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